

AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Previously Presented) A process for developing a voice application, including:
generating graphical user interface components for defining execution paths of a voice application by arranging dialog elements in a tree structure, each path through said tree structure representing one of said execution paths, said dialog elements having user configurable properties and corresponding to respective predetermined sequences of VoiceXML elements;
receiving user input generated by user interaction with said graphical user interface components;
processing said user input to define a voice application by selecting dialog elements representing components of said voice application, configuring properties of the selected dialog elements, and defining execution paths of said voice application as respective sequences of at least a subset of the selected dialog elements; and
generating voice application code for said application, said application code representing each dialog element of said voice application as a sequence of VoiceXML elements including extended attributes to allow said tree structure of said application to be determined.
- 2-4. (Canceled)
5. (Previously Presented) A process as claimed in claim 1, wherein said extended attributes are qualified names of a qualified XML namespace.
6. (Previously Presented) A process as claimed in claim 1, wherein each dialog element of said application code includes a reference to the next of said dialog elements in an execution path of said application.
7. (Previously Presented) A process as claimed in claim 1, including processing said application code to generate a visual representation of said dialog elements and said execution paths.
8. (Previously Presented) A process as claimed in claim 1, wherein said step of generating application code includes generating extended VoiceXML code, prompt data, and grammar data for said application.
9. (Original) A process as claimed in claim 8, wherein said prompt data is represented as a grammar, and said process includes improving said grammar.

10. (Previously Presented) A process as claimed in claim 8, including generating at least one script for generating a prompt for said application on the basis of one or more parameters supplied to said script.

11. (Original) A process as claimed in claim 10, wherein said at least one script is generated on the basis of at least one script template and prompt data defined for said prompt by a user.

12. (Previously Presented) A process as claimed in claim 10, wherein said at least one script includes ECMAScript.

13. (Original) A process as claimed in claim 8, including generating VoiceXML code and IVR grammar data for execution of said application on an IVR system on the basis of said extended VoiceXML code, prompt data, and grammar data.

14. (Previously Presented) A system having components for executing the process of claim 1.

15. (Canceled)

16. (Previously Presented) A computer readable storage medium having stored thereon program instructions for executing a process for developing a voice application, including executing the steps of:

generating graphical user interface components for defining execution paths of a voice application by arranging dialog elements in a tree structure, each path through said tree structure representing one of said execution paths, said dialog elements having user configurable properties and corresponding to respective predetermined sequences of VoiceXML elements;

receiving user input generated by user interaction with said graphical user interface components;

processing said user input to define a voice application by selecting dialog elements representing components of said voice application, configuring properties of the selected dialog elements, and defining execution paths of said voice application as respective sequences of at least a subset of the selected dialog elements; and

generating voice application code for said application, said application code representing each dialog element of said voice application as a sequence of VoiceXML elements including extended attributes to allow said tree structure of said application to be determined.

17. (Previously Presented) A system for use in developing a voice application, including:

a dialog element selector configured to define execution paths of said voice application by selecting dialog elements and adding said dialog elements to a tree structure, each path through said tree structure representing one of said execution paths, said dialog elements having user configurable properties and corresponding to respective predetermined sequences of VoiceXML elements;

means for receiving user input generated by user interaction with said dialog element selector;

means for processing said user input to define a voice application by selecting dialog elements representing components of said voice application, configuring properties of the selected dialog elements, and defining execution paths of said voice application as respective sequences of at least a subset of the selected dialog elements; and

a code generator for generating application code for said voice application, said application code representing each dialog element of said voice application as a sequence of VoiceXML elements including extended attributes to allow said tree structure of said voice application to be determined.

18. (Previously Presented) A system as claimed in claim 17, wherein said selector is adapted to process said application code to generate a graphical representation of said dialog elements and said execution paths of said application.

19. (Previously Presented) A system as claimed in claim 17, wherein said code generator generates extended VoiceXML code, prompt data, and grammar data for said application.

20. (Original) A system as claimed in claim 19, wherein said prompt data is represented as a grammar, and the system includes one or more modules for improving said grammar.

21. (Previously Presented) A system as claimed in claim 19, including a script generator for generating at least one script for generating a prompt for said application on the basis of one or more parameters supplied to said script.

22. (Previously Presented) A system as claimed in claim 21, wherein said script generator generates said at least one script on the basis of at least one script template and prompt data defined for said prompt by a user.

23. (Previously Presented) A system as claimed in claim 19, wherein said code generator generates VoiceXML code and IVR grammar data for execution of said application on an IVR system on the basis of said extended VoiceXML code, prompt data, and grammar data.

24. (Previously Presented) An extended VoiceXML file generated by the system of claim 17.

25. (Previously Presented) A graphical user interface for use in developing a voice application, said interface including graphical user interface components associated with executable program code stored on a computer-readable storage medium and processed by a computer system for defining execution paths of said application by arranging dialog elements in a tree structure, each path through said tree structure representing one of said execution paths, said dialog elements having user configurable properties and corresponding to respective predetermined sequences of VoiceXML elements, wherein said dialog elements include at least three of:

- a start dialog component for defining the start of said application;
- a variables component for use in defining variables for said application;
- a menu component for defining a menu;
- a menu choice component for defining a choice of said menu;
- a decision component for defining a decision branching point;
- a decision branch component for defining a test condition and an execution branch of said decision branching point;
- a form component for defining a form to collect input from a caller;
- a record component for recording audio;
- a speaker component for playing prompts;
- a local processing component for defining local processing;
- a remote processing component for performing processing on a remote system;
- a loop component for defining an execution loop;
- a loop call component for calling said loop;
- a loop next component for proceeding to the next cycle of said loop;
- a loop break component for breaking out of said loop;
- a subroutine component for defining a subroutine;
- a subroutine call component for calling said subroutine;
- a subroutine return component for returning from said subroutine;
- a jump component for defining a non-sequential execution path to a dialog element;
- a transfer component representing the transfer of a call to another number;
- a hotwords component for defining a word or phrase and a non-sequential execution path to a dialog element to be followed upon receipt of said word or phrase; and

an end component for defining an end of said application.

26. (Currently Amended) A computer readable storage medium having ~~stored thereon~~ application code for a voice application stored thereon for processing by a computer system to cause the computer system to execute the voice application, said application code including a plurality of dialog elements representing components of said voice application, each of said dialog elements being a sequence of VoiceXML elements including extended attributes to allow a tree structure of execution paths of said voice application to be determined, each path through said tree structure representing one of said execution paths.